

Claims:

1. A method for application-specific quality of service optimization, in which method the processing of data streams coming from said application is optimized in nodes (2a, 2b, 2c, 2d) between a sender (1a) and a receiver (1b) in a communication network, in which communication network at least one quality of service signalling protocol is used, **characterized** in that the application uses said at least one quality of service signalling protocol to mark application-specific data streams, wherein the nodes (2a, 2b, 2c, 2d) of the communication network identify, on the basis of the quality of service signalling, packets (3) belonging to the data stream of said application, and their type, wherein these packets (3) are subjected to optimization methods characteristic to this type.
2. The method according to claim 1, in which method packets (3) of at least one type are transmitted in the communication network, **characterized** in that said signalling protocol used is a quality of service signalling protocol which comprises a description of the type of the packets.
3. The method according to claim 1 or 2, in which method the quality of service is optimized, **characterized** in that the signalling protocol used is a quality of service signalling protocol which comprises parameters required in optimizations.
4. The method according to claim 1, 2 or 3, **characterized** in that application-specific signalling is used for optimization of a data stream of a real-time application in the nodes (2a, 2b, 2c, 2d) in the communication network.
5. The method according to claim 4, **characterized** in that application-specific optimization is used for optimization of an RTP stream (6).
6. The method according to any of the claims 1 to 5, **characterized** in that the application sets up, by means of signalling messages (4, 5) of the signalling protocol, an optimized path between the sender (1a) and the receiver (1b) for a data stream (6) of the application, wherein

the optimized quality of service required by the application is reserved at each node (2a, 2b, 2c, 2d) of the communication network.

- 5 7. The method according to claim 6, **characterized** in that the signalling protocol used is the RSVP, wherein *Path* (4), *Resv* (5) and *ResvConf* messages are used to reserve an optimized path for the data stream (6) of the application between the sender (1a) and the receiver (1b).
- 10 8. The method according to any of the claims 1 to 5, in which method the application transmits packets (3), **characterized** in that the application supplements the packet (3) to be transmitted with a signalling message (9), on the basis of which each reached node (2a, 2b, 2c) of the communication network can perform signalling.
- 15 9. The method according to claim 8, **characterized** in that the signalling protocol used is DiffServ, wherein the signalling message (9) is conveyed with the packet (3) itself in the DS field (22) of the packet, in the IP header (10), by means of which each reached node (2a, 2b, 2c) of the communication network can perform optimization.
- 20 10. A quality of service signalling protocol which is arranged to transmit signalling messages to nodes (2a, 2b, 2c, 2d) in a communication network and which quality of service signalling protocol comprises means for marking a data stream of a certain application, means for transmitting the type of said data stream, and means for transmitting optimization parameters, **characterized** in that the quality of service signalling protocol is arranged to mark the data streams belonging to said application for the nodes (2a, 2b, 2c, 2d) of the communication network, wherein these nodes (2a, 2b, 2c, 2d) of the communication network are arranged to identify these data streams and to use optimization methods characteristic to each type for these data streams.
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